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(54) FUNCTIONAL, SEGREGATED, CHARGED TELODENDRIMERS AND NANOCARRIERS AND METHODS OF MAKING AND USING **SAME**

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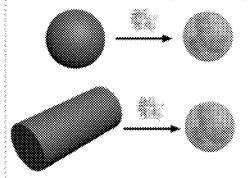
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(57)ABSTRACT

Provided are multiply functional charged telodendrimers. The telodendrimers can be used for protein encapsulation and delivery. The charged telodendrimers may have one or more crosslinking groups (e.g., boronic acid/catechol reversible crosslinking groups). The telodendrimers can aggregate to form nanoparticles. Cargo such as combinations of proteins and other materials may be sequestered in the core of the nanoparticles via non-covalent or covalent interactions with the telodendrimers. Such nanoparticles may be used in protein delivery applications.

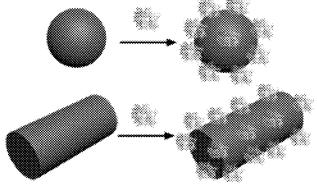
Specification includes a Sequence Listing.

Encapsulation model



Decrease in size Structural reconstruction

Absorption model



Increase in size No structural reconstruction



Telodendrimer nanoparticles



Proteins



Protein-telodendrimer complexes